

12

EUROPEAN PATENT APPLICATION

21 Application number: **89111929.9**

51 Int. Cl.⁵: **H01L 31/02, H01L 31/06**

22 Date of filing: **03.11.82**

30 Priority: **04.11.81 JP 177685/81**
15.12.81 JP 203155/81
28.12.81 JP 213119/81
09.04.82 JP 60109/82

43 Date of publication of application:
15.11.89 Bulletin 89/46

60 Publication number of the earlier application in
 accordance with Art.76 EPC: **0 078 541**

64 Designated Contracting States:
BE CH DE FR GB IT LI NL

68 Date of deferred publication of the search report:
20.06.90 Bulletin 90/25

71 Applicant: **KANEGAFUCHI KAGAKU KOGYO**
KABUSHIKI KAISHA
2-4 Nakanoshima 3-chome
Kita-ku Osaka-shi Osaka-fu(JP)

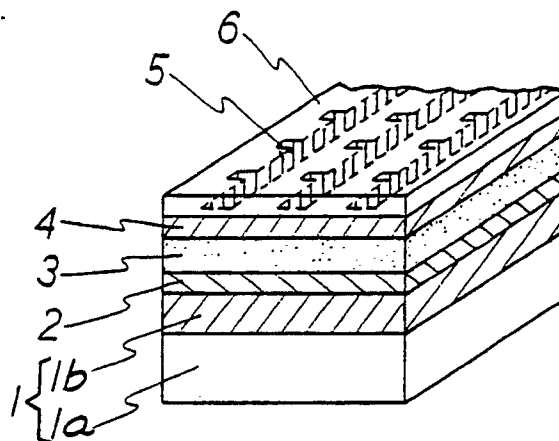
72 Inventor: **Hamakawa, Yoshihiro**
No. 3-17-4, Minami-Hanayashiki
Kawanishi-shi Hyogo-ken(JP)
 Inventor: **Tawada, Yoshihisa**
No. 14-39, Oike-Miyamadai Kita-ku
Kobe-shi Hyogo-ken(JP)
 Inventor: **Tsuge, Kazunori**
9-30-1220, Maikodai 2-chome Tarumi-ku
Kobe-shi Hyogo-ken(JP)
 Inventor: **Izumina, Masanobu**
No. 60-1, Horinouchi-cho 1-chome
Omiya-shi Saitama-ken(JP)

74 Representative: **Türk, Gille, Hrabal**
Brucknerstrasse 20
D-4000 Düsseldorf 13(DE)

54 **Flexible photovoltaic device.**

57 A flexible photovoltaic device includes a flexible substrate and a photovoltaic device body. The flexible substrate is a metal foil or film provided with an electric insulating layer of an inorganic material having an electric conductivity of not more than 10^{-7} - $(\Omega \cdot \text{cm})^{-1}$ at the time of light impinging and selected from a metal oxide, a crystalline or amorphous silicon compound.

FIG. 1



EP 0 341 756 A3



DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int. Cl.4)
A	EP-A-0 025 872 (MESSERSCHMITT-BÖLKOW-BLOHM GmbH) * Page 4, line 8 - page 6, line 30; claims; figures 3-5 *	1,4-9, 11	H 01 L 31/02 H 01 L 31/06
A	PATENT ABSTRACTS OF JAPAN, vol. 4, no. 59 (E-9)[541], 2nd May 1980; & JP-A-55 29 154 (SHIYUNPEI YAMAZAKI) 01-03-1980 * Abstract *	1,3-5,9	
D,A	PATENT ABSTRACTS OF JAPAN, vol. 4, no. 8 (E-166), 22nd January 1980; & JP-A-54 149 489 (MATSUSHITA DENKI SANGYO K.K.) 22-11-1979 * Abstract *	1,3,4,5	
A	US-A-4 281 208 (Y. KUWANO et al.) * Abstract; column 4, line 30 - column 5, line 14; claims 1-11; figures 1-4,7,9; column 11, lines 1-50 * & JP-A-55 107 276 (Cat. D,A)	1,4,5,9, 11,12	
A	PATENT ABSTRACTS OF JAPAN, vol. 5, no. 99 (E-63)[771], 26th June 1981; & JP-A-56 43 774 (FUJI DENKI SEIZO K.K.) 22-04-1981 * Abstract *	1,3-5	
A	DE-A-2 522 217 (P.H. FANG) * Claims; page 5, lines 11-28 *	1,3,7,9	
A	APPLIED PHYSICS LETTERS, vol. 39, no. 3, August 1981, pages 237-239, New York, US; Y. TAWADA et al.: "a-SiC:H/a-Si:H heterojunction solar cell having more than 7.1% conversion efficiency"		
The present search report has been drawn up for all claims			
Place of search THE HAGUE		Date of completion of the search 02-04-1990	Examiner VISENTIN A.
CATEGORY OF CITED DOCUMENTS X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons & : member of the same patent family, corresponding document			



DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int. Cl.4)
A	JOURNAL OF THE ELECTROCHEMICAL SOCIETY, vol. 122, no. 12, December 1975, pages 1681-1685, Princeton, US; T.L. CHU et al.: "Polycrystalline silicon on coated steel substrates" -----		
			TECHNICAL FIELDS SEARCHED (Int. Cl.4)
The present search report has been drawn up for all claims			
Place of search THE HAGUE		Date of completion of the search 02-04-1990	Examiner VISENTIN A.
CATEGORY OF CITED DOCUMENTS X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons & : member of the same patent family, corresponding document			